REMARKS

Formal Matters

Claims 1-3, 5-11, 13, 25, 27-30, 32, 33 and 37-45 are pending.

Claims 1-13, 25-33 and 37-45 were examined and are rejected.

Claims 1, 6, 7, 9, 10, 25, 28 and 30 are amended. The amendments to the claims were made solely in the interest of expediting prosecution, and are not to be construed as an acquiescence to any objection or rejection of any claim. Support for the amendments to the claims is found in the claims as originally filed, and throughout the specification, in particular at the following exemplary locations: claims 4, 26 and 31. Accordingly, no new matter is added by these amendments.

Claims 4, 12, 14-24, 26, 31 and 34-36 are cancelled without prejudice.

Applicants respectfully request reconsideration of the application in view of the remarks made herein.

Rejection of claims under 35 U.S.C. § 112, first paragraph (written description)

Claims 1-6, 9-13, 25-33 and 37-45 are rejected for failing to comply with the written description requirement of 35 U.S.C. § 112. The Office asserts that that claims contain new matter introduced by a previous amendment. The Applicants respectfully traverse this rejection.

Support for the above claims may be found at the following places:

New claims 37 39 and 43 find support in page 18, lines 18-29.

New claims 38, 44 and 45 find support in page 8, lines 5-10.

New claims 40 and 42 finds support in claims 16 and 17 as originally filed.

New claim 41 finds support in page 5, lines 5-9.

Support for the amendment to claims 1, 9 and 25 is found in page 18, lines 18-29

Support for the amendment to claim 28 is found in claim 25, as originally filed.

Support for the amendment to claims 10 and 12 is found in page 4, lines 1-5.

Accordingly, no new matter was added by the previous amendment and this rejection may be withdrawn.

Rejection of claims under 35 U.S.C. § 112, second paragraph

Claims 6, 10-13, 28, 31-33 and 40 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claim 6 and 28 are rejected as indefinite for reciting the phrase "in accordance with the retrieved biological function data".

Without wishing to acquiesce to the correctness of this rejection, claims 6 and 28 have been amended to further clarify the meaning of this phrase.

The Applicants respectfully submit that the meanings of claims 6 and 28 are now clear and this rejection may be withdrawn.

Claim 10 is rejected as indefinite for reciting the phrase "or communicating a biopolymer identity data obtained...".

Without wishing to acquiesce to the correctness of this rejection, claim 10 has been amended to recite "communicating *to the remote station* a biopolymer identity obtained..." in order to further clarify the meaning of this phrase.

The Applicants respectfully submit that the meaning of claim 10 is now clear and this rejection may be withdrawn.

Claim 12 is rejected for assertedly being incomplete.

Claim 12 is now cancelled and, accordingly, this rejection is moot and may be withdrawn.

Claim 26 is rejected for assertedly not further limiting the apparatus of claim 25. The subject matter of claim 26 is now incorporated into claim 25. However, the rejection is still traversed.

The Applicants respectfully submit that claim 25, as originally filed, does not specifically recite retrieval of data regarding the *identity* of the biopolymers on an array. Claim 26, however, recites "retrieving data on the *identity* of the biopolymers....". Accordingly, claim 26 further limits the retrieved biological data recited to data on the *identity* of the biopolymers.

The Office appears to argue that an apparatus, or processor thereof, cannot be defined by the types of data that it communicates.

The Applicants respectfully submit that, according to the MPEP (in § 2106, entitled "Computer-Related Inventions") computers may be described in a claim solely using functional language (e.g., to claim a computer containing a series of instructions for performing a function, for example). In many cases, the functional language may not structurally limit the claimed computer, however, the functional language does describe a feature that limits the claimed invention.

Accordingly, turning to the instant claims, the type of data that a processor communicates may not impart any structural limitation onto the processor that does the communicating, however, such a functional limitation should limit the claimed invention.

Accordingly, claim 26 further limits the apparatus of claim 25 and this rejection may be withdrawn.

Claims 31-33 are rejected for assertedly not further limiting the apparatus of claim 30.

Like the rejection of claim 26 discussed in the previous paragraphs, the Office argues that an apparatus, or processor thereof, cannot be defined by the types of data that it communicates.

Again, the Applicants respectfully submit that such functional limitations are standard in computer-related claims according to MPEP § 2106, and, accordingly, this rejection may be withdrawn.

Claims 31 and 40 are rejected as indefinite for reciting the phrase "along with an indication of a suspected feature error". The subject matter of claim 31 has been incorporated into claim 30. However, the rejection is still traversed.

The Office asserts that the metes and bounds of the claim are not clear.

The Applicants have previously argued that the term in question is clear because it uses dictionary defined words, e.g., "error", that have meanings that are well known and well used in the art. Further, the Applicants previously argued that different types of error are described in the specification, such as in page 5, lines 4-7. Accordingly, in view of the foregoing, the Applicants re-iterate their position that this phrase is clear.

The Office is respectfully requested to elaborate on the reasons why this phrase is unclear. An explanation of how particular words or terms in the phrase in question are unclear, or examples of how the phrase could be mis-interpreted, would be very useful to the Applicants in order to understand the Office's position.

If the Office cannot elaborate the rejection, the Applicants respectfully request that it is withdrawn since, in view of the plain meaning of the word "error" and the discussion of what is meant by the phrase in the instant specification, one of skill in the art would be apprised of what is claimed. According to current law, this is all that is required to satisfy the requirements of the second paragraph of 35 U.S.C. § 112.

Rejection of claims under 35 U.S.C. § 102 – Muraca

Claims 1-13, 25-30, 32-33, 37-39 and 42-45 are rejected under 35 U.S.C. § 102(e) as anticipated by Muraca (Published US Patent Application 2002168639). The Applicants respectfully traverse this rejection.

All of the rejected claims are directed to, *inter alia*, an addressable array of biopolymers or a method of using such an array. As such, an addressable array of biopolymers is an element of the claimed invention. As discussed in the instant specification, one type of biopolymeric array is an array of polynucleotides. Claims 2, 38 and 44 recite this limitation.

Accordingly, in order to qualify as anticipatory prior art, the prior art must disclose addressable array of biopolymers.

Muraca discloses an array of *tissue samples*, not an array of biopolymers, and, accordingly, cannot anticipate the claimed invention.

Evidence supporting the above statement is found throughout Muraca's disclosure. For example, in Muraca's abstract, it is stated "The invention provides a profile array substrate comprising a first location for placing and retaining a *test tissue sample*, and a second location comprising a microarray. The microarray comprises......*a control tissue sample* with known biological characteristics. Placement of the *test tissue* on the profile array substrate....permits a side-by-side comparison of the biological characteristics of a *test tissue* at the first location with the biological characteristics of *tissues* within the microarray." (emphasis added). Muraca's arrays of tissue samples find use in staining and immunohistological profiling of various tissues.

At no point in Muraca's disclosure does Muraca disclose or fairly suggest that her arrays are biopolymeric, e.g., polynucleotide or polypeptide, arrays. As such, this element of the claimed invention is not taught by Muraca, and, accordingly, this rejection may be withdrawn.

In addition, because Muraca's arrays are tissue arrays, Muraca fails to disclose

retrieval of biological function data relating to a biopolymer, for example, information on a gene from which the biopolymer originated.

The passages that the Office to in Muraca's disclosure as support for this rejection merely discuss that information about the *tissues* on the array may be obtained. For example paragraph 29 discusses accessing a database of information to obtain "information relating to the reactivity of *tissues samples* in the microarray", where "information relating to the *source of the tissues* is patient information", paragraph 34 discusses "information relating to the *sources of tissue* on the microarrays", paragraph 144 discusses "information including *patient information*, or information about the *tissue source*", and paragraph 183 states "the information management system identifies relationships between the *biological characteristics of a test tissue and tissues on the microarray, or other previously characterized tissues*..." (emphasis added).

Accordingly, as well as not disclosing a biopolymeric array, Muraca fails to disclose retrieval of biological function data relating to a biopolymer.

The Applicants respectfully submit that Muraca therefore falls short of being an anticipatory reference for several reasons, and, as such, this rejection may be withdrawn.

Rejection of claims under 35 U.S.C. § 102 – Doung

Claims 1-13, 25-30, 32-33, 37-39 and 42-45 are rejected under 35 U.S.C. § 102(e) as anticipated by Doung (Published US Patent Application 20020177135). The Applicants respectfully traverse this rejection.

Without wishing to acquiesce to the correctness of this rejection, Claims 1, 9 and 25 have been amended to incorporate the subject matter of claim 4. In other words, the claims have been amended to further define how the biological function data is retrieved. These claims now recite a step in which a) an identifier signal used to retrieve the identity of biopolymers on the array, *and* b) the identity of the biopolymers is used to retrieve biological function data for the biopolymers. In one exemplary embodiment, therefore, a barcode is used to retrieve an identifier of a nucleic acid on the array, and this identifier is then used to retrieve biological information about the nucleic acid, e.g., the name of the gene that it represents.

The Applicants respectfully submit that these steps are not disclosed or fairly suggested by Doung.

Evidencing this submission is the fact that Doung's "information", according to

paragraphs 0330-0332, is information about the cartridge, i.e., the array, used. For example, Doung's information can show which cartridge was inserted, e.g., "the HIV panel, the HCV panel, the infectious disease panel, the breast cancer SNP panel, etc." "or other data about the cartridge (lot or batch number, etc.)". At no point does Doung disclose or fairly suggest a method or apparatus that uses an identifier signal to retrieve the identity of the biopolymers on an array *and* use the identity of the biopolymers to retrieve biological information about the biopolymers.

At best, Doung provides information about the array used, e.g., whether or not it is an HIV array, for example, and this would not require anything more than querying a single database with a single identifier. Accordingly, Doung fails to disclose all of the limitations of claims 1, 9 and 25, and claims dependent therefrom.

Claim 28 recites a processor that associates information from reading an array with retrieved biological function data.

At no point does Doung fairly disclose or suggest such a limitation, and accordingly, Doug fails to disclose all of the limitation of claim 28.

Finally, claim 30 recites a processor communicating a suspected feature error.

The Applicants respectfully submit that Doung fails to disclose such a limitation, and, accordingly, this rejection may be withdrawn.

In view of the foregoing discussion, the Applicants respectfully submit that Doung fails to teach a feature of each of the pending claims and, accordingly, this rejection may be withdrawn.

Rejection of claims under 35 U.S.C. § 102 – Schembri

Claims 1-3, 5, 7-12, 25, 27, 29-30, 32-33, 37-39 and 42-45 are rejected under 35 U.S.C. § 102(b) as anticipated by Schembri (GB 2,319,838). The Applicants respectfully traverse this rejection.

Without wishing to acquiesce to the correctness of this rejection and solely to expedite prosecution, the claims have been amended as follows: the subject matter of claim 4 is incorporated into claims 1 and 9, the subject matter of claim 26 is incorporated into claim 25, and the subject matter of claim 31 is incorporated into claim 30.

Claims 4, 26 and 31 are not rejected over Schembri, and, accordingly, these claims recite limitations that are not disclosed or fairly suggested by Schembri. Since all of the

pending claims now recite subject matter previously recited in claims 4, 26 and 31, all of the pending claims recite subject matter that is not disclosed or fairly suggested by Schembri.
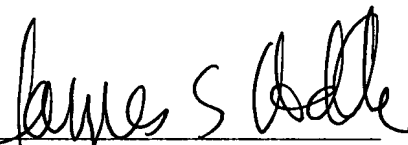
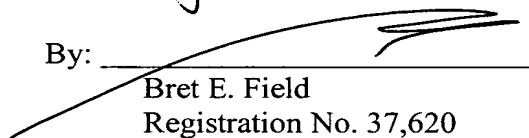Accordingly, this rejection may be withdrawn.

CONCLUSION

The Applicants respectfully submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone Gordon Stewart at (650) 485 2386. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50-1078.

Respectfully submitted,

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